

CLAIMS

- 5 1. A method of fabricating composite tubular door frame comprising the steps of
 - (a) laying-up a plurality layers of prepreg composite fabric on a mould having an upper mould component and a lower mould component, and each layer of the composite fabric being compacted;
 - 10 (b) placing a plurality of nylon tubes over the composite fabric at the upper mould component with the ends of the nylon tubes being extended out at each of the corners of the mould to be sealed with a main bag placed over the top and envelope the upper mould component;
 - (c) proceeding the mould to a curing step with a curing pressure of 4 to 7 bars with 0.3 to 0.7 bar vacuum, the mould being heated in an autoclave to 80 degree C and hold for 30 min to 1.5 hour with 0.3 to 0.7 bar of vacuum in the enclosure enveloped the main bag sealed with the nylon tubes; and
 - 15 (d) removing the main bag from the mould and the nylon tubes being pulled out of from the mould and removing the mould to obtain a tubular door frame.
- 20 2. The method of claim 1, wherein the composite fabric is glass or carbon fabric pre-impregnated with epoxy resin.
3. The method of claim 1 or 2, wherein the curing temperature is 120 degree C.
- 25 4. The method of claim 1 or 2, wherein the curing temperature is 180 degree C.
5. The method of any one of claims 1 to 4, wherein the pressure applied to the autoclave during the 80 degree C is 4 bars.
6. The method of any one of claims 1 to 5, wherein the temperature of the autoclave is gradually increased to 180 degree C.
- 30 7. The method of any one of claims 1 to 6, wherein the temperature of 180 degree C is hold for 2 hours before cooling to room temperature.
8. A method of fabricating composite tubular frame comprising the steps of

- (a) laying-up a plurality layers of prepreg composite fabric on a mould having an upper mould component and a lower mould component, and each layer of the composite fabric being compacted;
 - 5 (b) placing a plurality of nylon tubes over the composite fabric at the upper mould component with the ends of the nylon tubes being extended out at each of the corners of the mould to be sealed with a main bag placed over the top and envelope the upper mould component;
 - 10 (c) proceeding the mould to a curing step with a curing pressure of 4 to 7 bars with 0.3 to 0.7 bar vacuum, the mould being heated in an autoclave to 80 degree C and hold for 30 min to 1.5 hour with 0.3 to 0.7 bar of vacuum in the enclosure enveloped the main bag sealed with the nylon tubes;
 - 15 (d) removing the main bag from the mould and the nylon tubes being pulled out of from the mold and removing the mould to obtain a tubular door frame; and
 - (e) trimming off of excessive composite fabrics from the tubular door frame obtained in step (d).
9. The method of claim 1 or 8, wherein the pressure applied to the autoclave is preferably 4 bars.
- 20 10. The method of claim 1 or 8, wherein the vacuum applied in the curing step is 0.5 bar.
11. The method of claim 1 or 8, wherein the nylon tubes pressurize the inner wall of the composite fabric during curing.
- 25 12. The method of claim 1 or 8, wherein the composite fabric is selected from the group consisting of carbon, glass, boron and aramid.